ATSDR Record of Activity

UID #: TRS1 Date: 02/26/03 Time 03:30 am pm x

Site Name: Bally Groundwater Site City: Bally Cnty: Berks
State: _____

CERCLIS #: _____ Cost Recovery #: 30j5 Region: 3

Site Status: (1) x NPL _ Non-NPL _ RCRA _ Non-Site specific _ Federal
(2) _ Emergency Response _XRemedial _ Other

Activities

_ Incoming Call _ Public Meeting _ Health Consult _ Site Visit
1 Outgoing Call _ Other Meeting _ Health Referral _ Info Provided
1 Conference Call _ Data Review Written Response _ Training
_ Incoming Mail _ Other

Requestor and Affiliation: (01) Jennifer Hubbard, EPA Tox
Phone: 215/814-3328 Address: 1650 Arch St
City: Philadelphia State PA Zip Code: 19103

Contacts and Affiliation

(31) Mike Allred, ATSDR, ER (31) Mitch Cron, EPA, RPM
(05) Christine Brussock, PADOH( )

1-EPA	2-USCG	3-OTHER FED	4-STATE ENV	5-STATE HLT	6-COUNTY HLT
7-CITY HLTH	8-HOSPITAL	9-LAW ENFORCE	10-FIRE DEPT	11-POISON CTR	
12-PRIV CITZ	13-OTHER	14-UNKNOWN	15-DOD	16-DOE	
17-NOAA	18-OTHR STATE	19-OTHR CNTY	20-OTHR CITY	21-INTL	
22-CITZ GROUP	23-ELECT. OFF	24-PRIV. CO	25-NEWS MEDIA	26-ARMY	
27-NAVY	28-AIR FORCE	29-DEF LOG AGCY	30-NRC	31-ATSDR	

Program Areas

_ Health Assessment _ Health Studies _ Tox Info-profile
_ Worker Health _ Petition Assessment _ Health Surveillnc
_ Tox Info-Nonprofile _ Admin X Emergency Response
_ Disease Registry _ Subst-Spec Research _ Other
- Health Consultation _ Exposure Registry _ Health Education

Narrative Summary:

Ms. Hubbard had previously met with the ATSDR Regional office to discuss possible contamination of finished water from a public drinking water well that remained even after a two phase air stripping process for volatile organic compounds (VOC's) was utilized. The Bally Groundwater site has been identified as the source of this contamination. Ms. Hubbard indicated that EPA Region III was now looking at sites where VOC's in groundwater were identified as a problem. EPA investigations have determined that 1,4-dioxane might be present as an undetected contaminant in the VOC plume because of interference of the high concentrations of other VOC's (e.g. TCE, PCE, TCA etc.). 1,4- dioxane has been used extensively as a stabilizer for other VOC's especially TCA and TCE. Because of its unique properties (e.g. its affinity to remain in a water matrix) 1,4- dioxane is not readily removed by air stripping. It is also believed that carbon filtration would not effectively remove the

contaminant. At this site, a public water supply has been affected by offsite migration of VOC's. The contractor for the Potentially Responsible Party(PRP) took an effluent sample which was reported as 54 ppb 1,4-dioxane. There is no MCL for this chemical. The concentration of 1,4-dioxane in water that would result in an estimated excess cancer for 1 x E-6 (1 in a million) for a 30 year exposure(utilizing CERCLA standards) would be 6 ppb. For a 70 year exposure (used by the Safe Drinking Water Act {SDWA}) it would be 3 ppb. The 54 ppb would equate to an an estimated excess cancer risk of 1 x E-5 or approx 9 per million based on a 30 year exposure. Since only one sample had been taken, EPA Region III had requested that additional samples be taken to confirm the original result. A summary of those results taken throughout the distribution systems show the following:

PRP data
Locations unknown
#1: 38 ug/L; #2: 35 ug/L; #3: 40 ug/L; #4: 36 ug/L; #5: 29 ug/L; #6: 36 and 35 ug/L (duplicates)
Unvalidated, no information about blanks or other QC samples. Analyzed by method 8270C (SW846), with a detection limit of 10 ug/L. Need to match samples with locations.

Supply well 2nd stage air stripper: 60.5 ug/L
Unvalidated, no information about QC. Analyzed by method 8260B with a detection limit of 20 ug/L.

Borough data
Supply well raw water: non-detect (DL 20 ug/L)
Supply well 50% treatment: 201 ug/L
Supply well effluent 2nd stage air stripper: 209 ug/L
Prechlorination, post-stripper: non-detect (DL 20 ug/L)
"Entry point" tap: non-detect (20 ug/L)
Unvalidated. Obvious problem with trip blanks (looks like one was broken, one never received; not clear what blanks, if any, were run). Analyzed by method 8260B with a detection limit of 20 ug/L.

EPA Region III is coordinating the validation of these samples. Overall, the results are not very consistent. The detections, if valid, range from about 30 to about 200 ug/L and appear to be within the 1 x E-4 to 1 x E-6 risk range. EPA Region III is inclined to view these as levels not warranting removal action, but warranting remedial action to the 1 x E-6 level because of the direct connection with the public water supply. Based on the 1 x E-6 level, the cleanup level proposed by EPA would be 6ppb for 1,4-dioxane. EPA Region III would like ATSDR to review the existing data and determine if it concurs with EPA Region III that an acute problem does not exist and that a cleanup level of 6 ppb 1,4-dioxane would be protective of public health. The Pennsylvania Department of Health was kept fully informed of the situation and deferred to ATSDR for this public health review.

The ATSDR Regional Office contacted Mike Allred, Ph.D., ATSDR Emergency Response, and the above information was provided to him. Dr. Allred concurred that 1,4-dioxane at these levels did not pose an acute risk to the residents utilizing this water and that exposure at these levels required evaluation for potential chronic health effects. The EPA proposal to reduce the concentration of 1,4 dioxane to 6ppb in

the finished water available to consumers would be protective of public health. Dr. Allred noted that regardless of the remedy selected by the EPA to achieve a clean up level of 6ppb, a monitoring program for both 1,4-dioxane and the other VOC's that had been detected in the raw water is indicated to ensure that exposures to concentrations of public health concern do not occur. Remediation of the source of the contamination has not yet been completed and approximately 1000 households are served by this public water system and children and other susceptible populations are in those households.

The ATSDR Regional office contacted both Ms. Hubbard and Mr.Cron, the RPM for the site, and relayed the above conclusions and recommendation to them. They agreed that frequent monitoring was prudent in this situation and that EPA had already implemented a weekly monitoring program for site contaminants including 1,4-dioxane. They were considering ultra violet oxidation as an interim solution for the 1,4-dioxane contamination with well replacement as a future option.

ATSDR is available to assist in evaluating any additional sampling data for this site.

Action Required/Recommendations/Info Provided
None
Enclosures: Yes ( ) No (x); HAZDAT entry: Yes (x) No ( )

signature Thomas J Tufa Date: 02/27/03

cc: Juan Reyes
C. Walters
file